What Is That Bubblin' In My Back Yard?

George Michael Fox
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Anderson Community School Corp.
Anderson, Indiana

Topic- Spatial relationships between student homes, schools, and community environmental hazard sites.

Classroom sessions / estimated time- 80 minutes

Grade Level – 8th through 10th

Purpose- To introduce GIS resources to students.

Standards

- How to use maps and other geography representations to acquire information
- How to analyze the spatial organizations of people, places and environments
- That people create regions to interpret earth's complexity
- The patterns and networks of economic interdependence
- The processes, patterns, and functions of human settlement
- How human actions modify the physical environment

Behavioral Objectives-

- Students will be able to navigate and use the Internet in general and Geographic Information System (GIS) sites in specific.
- Students will be able to create a map plotting local sites the Environmental Protection Agency has on its EPA Regulated Sites list.
- Students will be able to identify a list of schools that are near potentially hazard sites.
- Students will be able to discuss the need for citizens to, at a minimum, be aware of potential pollution hazards in their community. This will be demonstrated by referring to local facilities during the discussion.

Procedures –

- Step 1 (5 min) Pass out a line map of your local community. If you have none available, one may be created by visiting www.mapquest.com. Have students plot the location of their house and mark with a red dot.
- Step 2 (20-30 min) Using a map of the schools in your local school system. Have students plot all schools on their line map used in Step 1. Plot elementary, middle, and high schools. This map should be available through your school system or telephone book.
- Step 3 (45-60 min) Using the EPA website, plot all EPA regulated facilities located in your community. Label sites on your map created in Step 1 in a color that pleases

you. Accompanying most facility listings, you can click on a button to draw a map of that site in a small, localized format.

Note: Make sure students understand that being listed on this list does not make a particular site an "evil" facility. These are just locations that are registered and monitored by the EPA. In reality, these firms may be much better environmental "good guys" than an unknown, unregulated polluter.

Note: Advanced students located in the Indianapolis MSA will be able to plot all of these locations using the SAVI web site and Arc Explorer software.

Locating local EPA-Regulated list…

1. Enter on your Web browser www.epa.gov
2. Select Your Community on the sidebar
3. Select Search Your Community
4. Enter Zip Code or Codes of your school district.

Note: You can click on the name of each facility to view technical data as to what is being regulated.

Discussion Questions to Analyze Your Newly Created Map-

Which section of your community has the most EPA Regulated sites? Which has the least?
Whose home is the closest to a potentially dangerous site?
Which school appears to have "the record" for being in the most potentially hazardous location?

Extending the learning-

- Have students print a digital aerial picture of their home from the Terra Server web site.The site may be found at http//terraserver.homeadvisor.msn.com.
- Have students mark their home and any EPA-Regulated sites in the photo. Certain students may need to zoom out a click or two to get an EPA site in their photo.
- Staple photo to the EPA/School map created earlier in this lesson plan and display in room or hallway.

Assessment-

Check student maps and aerial photo sheet for accuracy and neatness. Display completed work in room or hallway.